

Two Approaches to Focus Group Data Collection for Qualitative Health Research: Maximizing Resources and Data Quality

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Abstract

This article discusses four challenges to conducting qualitative focus groups: (1) maximizing research budgets through innovative methodological approaches, (2) recruiting health-care professionals for qualitative health research, (3) conducting focus groups with health-care professionals across geographically dispersed areas, and (4) taking into consideration data richness when using different focus group data collection methods. In light of these challenges, we propose two alternative approaches for collecting focus group data: (a) extended period of quantitative data collection that facilitated relationship building in the sites prior to qualitative focus groups and (b) focus groups by videoconference. We share our experiences on employing both of these approaches in two national research programs.

Keywords

qualitative health research, focus groups, data collection, health-care professionals, videoconferencing

What Is Already Known?

Despite the well-documented advantages of focus group data collection, modern challenges for qualitative health researchers exist. Health research funding is increasingly competitive, recruiting health-care professionals to participate in qualitative health research is challenging due to increasing busyness in clinical environments, vast geographical distances between research sites hinder data collection and consume valuable research resources, and finally, attempts to mitigate these challenges generate concerns of potential trade-offs that compromise data richness. These known issues pose significant challenges for qualitative health research focus group data collection.

What This Paper Adds?

The purpose of this article is to discuss these four challenges in the context of two nationally funded research programs that used focus groups as a data collection method with health professionals from busy clinical environments across geographically dispersed areas. We propose two different approaches to focus group data collection that may alleviate some of the barriers faced by qualitative health researchers while preserving data richness. These proposed approaches have the

potential to save costs and alleviate some of the practical challenges researchers face in these contexts.

Background

Focus groups are a common qualitative data collection method and are considered an important qualitative health research technique (Morgan, 1997), owing to their efficient and economical nature (Krueger & Casey, 2000). Focus groups are defined as “group discussions exploring a set of specific issues that are focused because the process involves some collective activity” (Kitzinger, 1994, p. 104). The key aspect of focus groups is the interactions between participants as a way of collecting qualitative data that would not emerge using other methods (i.e., individual interviews; Duggleby, 2005; Kitzinger, 1994; Peters, 1993). Focus groups yield large amounts of qualitative data and maximize face-to-face (FTF) participant–

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researcher contact compared to other qualitative methods (Parker & Tritter, 2006). The choice of data collection method (i.e., individual interview vs. focus group) should be determined by the research question and purpose.

Despite the advantages of focus groups in qualitative health research, critical challenges exist. First, health research funding is becoming increasingly competitive as available grant dollars decline (Poulter & Young, 2011). This has a significant impact on grant budgets and resources allocated to data collection costs. Second, recruiting health-care professionals to participate in qualitative health research is an increasingly challenging process. The busyness of the clinical environment affects the availability of the staff, the rapport between researchers and staff, and the rapport among the staff themselves. The reality of busy clinical environments can result in a lack of time or ability to participate in research (Hysong et al., 2013; Roxburgh, 2006). Third, conducting qualitative health research across geographically dispersed areas is difficult (Sedgwick & Spiers, 2009), specifically due to lack of access due to large, physical distances between researcher and participants and the associated costs with bridging this distance (Gratton & O'Donnell, 2011). Finally, to address cost, recruitment, and geographical issues, there is an increase in the use of technology for focus group data collection (i.e., Skype, Twitter, chat rooms, and videoconferencing). By shifting away from traditional FTF interaction, these modalities may have implications on data richness.

We discuss these four challenges in the context of two nationally funded research programs that used focus groups as a data collection method with health professionals from busy clinical environments across geographically dispersed areas. The main purpose of this article is to propose how two alternative approaches to focus group data collection alleviate some of the main challenges and barriers faced by qualitative health researchers. The two approaches are (a) an extended period of quantitative data collection that facilitated relationship building in the sites prior to qualitative focus groups and (b) the use of videoconference to conduct qualitative health services research.

The Research Studies

Project 1: Translating Emergency Knowledge for Kids (TREKK)

The TREKK project is a multiyear, pan-Canadian study.¹ The goal of TREKK is to improve pediatric emergency care by ensuring the application of best research evidence in general emergency departments (EDs) without pediatric specialists. The first phase of this project, the Needs Assessment, investigated knowledge needs and preferences of two key groups: health-care providers working in general EDs and parents seeking care for their children in these EDs. To accomplish this, quantitative electronic surveys were conducted on iPads with both groups in 32 hospitals from May 2012 to July 2013 (S. D. Scott et al., in press; S. D. Scott, Albrecht, Given, Arseneau, &

Klassen, 2016). In 7 of the 32 participating sites, survey data collection was followed by targeted qualitative focus group data collection during intensive site visits, ranging from 2 to 4 days in length. The site data collectors and Needs Assessment Coordinator conducted these visits together from June 2013 to December 2013 to obtain further clarity and granularity of the survey results. These sites were chosen for maximum variation and to represent urban, rural, and remote regions.

Establishing Relationships Prior to Focus Group Data Collection

Given that the project was taking place at 32 hospitals across the country, regional, on-the-ground staff routinely visited the individual sites over the course of the study. Each data collector visited between one to four sites multiple times, and the Needs Assessment Coordinator visited seven sites over the course of 19 months. This strategy served two purposes: (1) to maximize recruitment of health-care providers and parents in a busy clinical environment and (2) to overcome technology barriers to participation. During the site visits, the data collectors spoke to staff and parents about the research project, the local environment, and other related topics. Some of the data collectors were also nurses working at the regional pediatric ED and could offer advice to staff or share expertise in the research sites. Often the data collectors distributed e-mails or posters to announce their visits and brought small incentives such as coffee, homemade baking, or stickers for children coming into the EDs. These interactions served to build relationships between the research team and the participating sites, which would hopefully result in richer qualitative data and higher participation rates for focus groups, despite the busy, and often stressful, clinical setting.

Project 2: The Implementation and Evaluation of an Alberta Childhood Asthma Clinical Pathway (CP)

The Implementation and Evaluation of an Alberta Childhood Asthma CP is a nationally funded research project in Canada.² The main goal of this research project was to improve pediatric asthma care in general EDs by implementing and evaluating a research-based CP. One phase of this multiphase project was a process evaluation, which focused on understanding the factors that affect the use of CPs in clinical practice and explored the barriers and facilitators that shaped the CP implementation process. To accomplish this, focus groups were conducted with multidisciplinary, health-care professionals in 5 of the 17 EDs that implemented the asthma pathway. Focus groups enabled us to observe group dynamics and levels of consensus and to gather information on contextual factors that may shape the implementation process (Krueger, 1994). Thus, for our research purpose, focus groups were the best method of data collection to capture these insights. Focus groups were conducted at two time points: pre- and postpathway implementation. The five EDs were in rural regions of Alberta with extensive patient catchment areas and busy clinical

environments. The preimplementation focus groups were conducted in-person FTF, which presented many challenges. We experienced fixed focus group scheduling due to our restricted and specific travel dates to these rural sites. This form of scheduling did not allow for any flexibility to accommodate unpredictable changes (e.g., emergency situations, patient load, and staffing levels) that can occur in an ED environment.

Use of Videoconferencing to Conduct Focus Groups

In response to these challenges, the research team decided to use videoconferencing technology as an alternative approach to conduct the postimplementation focus groups. Videoconferencing has become an increasingly used communication and education modality in health care (Daley, Spalla, Arndt, & Warnes, 2008; Harris, Smith, & Armfield, 2007; Winters & Winters, 2007). It has been used to provide health information and education to remote areas (Collie et al., 2007; Locatis et al., 2006) and education to health professionals (Harris et al., 2007). Videoconferencing has also been used as cost-saving strategy for interviews (Shore, Brooks, Savin, Manson, & Libby, 2007). The research team decided that videoconferencing would allow for more flexible scheduling at the convenience of the staff with less cost.

We conducted the postimplementation qualitative focus groups using Alberta Health Services “Telehealth” videoconferencing technology. Telehealth is a secure technology in health-care facilities across Alberta that is currently used to connect health-care professionals to each other and to patients (Alberta Health Services, 2017). Telehealth provides a data collection mode for qualitative health researchers that is in real time, is safe and confidential, and provides the technological support for scheduling and use. Alberta has over 1,600 telehealth services with the ability to reach out to sites both nationally and internationally (Alberta Health Services, 2017). Telehealth enables people to see, hear, and talk in a virtual environment. Using an established videoconferencing program allowed us to collect data in real time, this enabled interaction between and among the participants and the researcher (Tuttas, 2015). In the literature, there are some concerns that videoconferencing may not provide the same level of interaction between the participants and moderator as FTF focus groups (O’Conaill, Whittaker, & Wilbeur, 1993); however, this evidence primarily compares FTF groups to online text-only focus groups and not technologies that incorporate audiovisual capacity to mimic FTF focus groups.

Results

Project 1: TREKK

The cost breakdown of the focus group data collection for the TREKK research project is described in Table 1.

In total, 57 health-care professionals participated in 13 focus groups in the seven sites. The average number of participants per focus group was five. Focus groups ranged in length from

Table 1. Focus Group Costs for TREKK.

Costs by Focus Group Type and Number of Participants (Not Including Salary)	TREKK Project Focus Group Costs in CAD (N)
Cost per focus group overall	1,423.95 (N = 13)
Cost per participants overall	319.16 (N = 58)
Cost per rural focus group	1,796.60 (N = 6)
Cost per number of rural participants	366.79 (N = 30)
Cost per urban focus group	415.55 (N = 4)
Cost per number of urban participants	89.94 (N = 11)
Cost per remote focus group	2,023.21 (N = 3)
Cost per number of remote participants	371.79 (N = 17)

Note. TREKK = Translating Emergency Knowledge for Kids.

30 min to 1 hr 20 min, depending on the number of participants present. Participant demographics are described in Table 2.

Project 2: The Implementation and Evaluation of an Alberta Childhood Asthma CP

The cost breakdown for the Partnership for Health System Improvement (PHSI) research project is described in Table 3.

In total, 52 health professionals participated in a total of 9 focus groups, 1 individual interview, and 2 dyad interviews across five sites. Focus groups and interviews ranged in length from 30 min to 1 hr. Participant demographics for the preimplementation focus groups are described in Table 4. We collected the postimplementation data from five focus groups and one dyad interview at the five ED’s 6–12 months postimplementation of the CP. We conducted the postimplementation focus groups and dyad interview via Telehealth videoconferencing. Participant demographics for the postimplementation focus groups are described in Table 5. There was no decrease in sample size from the preimplementation to the postimplementation focus groups.

To assess data richness for PHSI, we collected field notes and observations regarding participant interactions, and we coded these interactions using qualitative content analysis. We did not note any decrease in the amount and depth of interaction from the preimplementation versus the postimplementation focus groups. Quantitatively we assessed data richness by comparing the FTF focus groups versus the online audiovisual (teleconferencing) focus groups by (a) the number of participants, (b) the average length of interview time, (c) the average number of words per transcript, and (d) the average length of participants’ longest response (Table 6).

Discussion

Challenge 1: Funding Challenges for Health Services Research

Some would argue that data collection costs should not present as a challenge to the researcher if the outcome is rich qualitative data; however, it is an unavoidable issue considering the declining rates of health research funding (Poulter & Young,

Table 2. Participant Demographics in TREKK Focus Groups.

Participant Demographic Variables		Overall (N = 57)	Urban (N = 11)	Rural (N = 30)	Remote (N = 16)	
Gender	Female	N = 43	N = 9	N = 22	N = 12	
	Male	N = 14	N = 2	N = 8	N = 4	
Age	18–24 years	N = 3	N = 2	—	N = 1	
	25–34 years	N = 16	N = 7	N = 4	N = 5	
	35–44 years	N = 21	N = 2	N = 13	N = 6	
	45–54 years	N = 11	—	N = 7	N = 4	
	55–64 years	N = 6	—	N = 6	—	
Profession	Nurse	N = 48	N = 11	N = 23	N = 14	
	Physician	N = 8	—	N = 6	N = 2	
	Other	N = 1	—	N = 1	—	
Length of time working in profession	Less than 1 year	N = 3	N = 1	N = 2	—	
	1–5 years	N = 17	N = 7	N = 3	N = 7	
	6–10 years	N = 10	N = 3	N = 1	N = 6	
	11–15 years	N = 8	—	N = 6	N = 2	
	16–20 years	N = 7	—	N = 6	N = 1	
	21–25 years	N = 4	—	N = 4	—	
	26–30 years	N = 2	—	N = 2	—	
	31–35 years	N = 4	—	N = 4	—	
	36–40 years	N = 2	—	N = 2	—	
	Length of time working in ED	Less than 1 year	N = 6	N = 2	N = 4	—
		1–5 years	N = 24	N = 8	N = 9	N = 7
6–10 years		N = 10	N = 1	N = 3	N = 6	
11–15 years		N = 6	—	N = 4	N = 2	
16–20 years		N = 6	—	N = 5	N = 1	
21–25 years		N = 3	—	N = 3	—	
26–30 years		N = 2	—	N = 2	—	

Note. TREKK = Translating Emergency Knowledge for Kids; ED = emergency department.

Table 3. Focus Group Costs for PHSI.

PHSI Project—Costs in CAD			
Hospital Site	Preimplementation, In-Person Qualitative Data Collection ^a	Postimplementation, Videoconference Qualitative Data Collection ^b	Cost Savings
Case A	\$705.24	\$613.44	\$91.80
Case B	\$1,019.22	\$388.92	\$630.30
Case C	\$965.19	\$241.50	\$723.69
Case D	\$942.00	\$282.45	\$659.55
Case E	\$960.00	\$342.51	\$617.49
Total	\$4,591.65	\$1,868.82	\$2,722.83

Note. PHSI = Partnership for Health System Improvement.

^aCosts for the preimplementation data collection include travel and accommodation expenses and court-reporter or transcription expenses. Salary cost is not included. ^bCosts for the postimplementation data collection were for court-reporter service. Travel and accommodation expenses were eliminated. Salary cost is not included.

2011). In the context of the TREKK project, data collection resources were maximized due to TREKK's focus on rural and remote regions of the country. There were additional financial costs associated with conducting regular relationship building activities, for example, research staff time, travel costs, providing incentives, and so on, that are not reflected in the data collection expenses outlined in Table 1; however, this was a worthwhile approach for the TREKK project and may also be valuable expenditures for other long-term projects with high

demands on participants, such as multiple phases of data collection over time.

For the PHSI research project, the use of videoconferencing was more efficient and economical than the preimplementation FTF focus groups. Rupert, Poehlman, Hayes, Ray, and Moultrie (2017) found in a comparison of FTF, live chat, and video focus groups that platform costs for the online and video focus groups were higher and that overall the differences in costs between data collection modes were minimal. However, comparing the costs of both approaches within this project, we saved a total of \$2,722.83 CAD using the videoconferencing modality. The reasoning for such differences is that our platform to host the videoconferencing focus group was free. Abrams, Wang, and Galindo-Gonzalez (2015) noted a variety of advantages with online audiovisual and online text-only focus groups that save money and time such as no need to buy audio or visual equipment, no need to find a physical location, and no need to hire transcribers. A number of technologies (i.e., iPads, Twitter, and Telehealth) offer proven examples of data collection methods that are cost-effective, efficient, and employ modern technology (S. D. Scott et al., 2016).

Challenge 2: Recruiting Health-Care Professionals to Participate in Qualitative Health Research

Recruiting health-care professionals to participate in research is a time-consuming process fraught with contextual barriers

Table 4. Participant Demographics Preimplementation PHSI Focus Groups.

Participant Demographic Variables (Preimplementation)		Case A	Case B	Case C	Case D	Case E	Total Sample
Number of Participants		N = 15	N = 5	N = 3	N = 2	N = 1	N = 26
Gender	Female	N = 14	N = 4	N = 2	N = 2	N = 1	N = 23
	Male	N = 1	N = 1	N = 1	—	—	N = 3
Age	18–24 years	—	—	—	—	—	—
	25–34 years	N = 4	N = 1	N = 1	—	—	N = 6
	35–44 years	N = 2	N = 2	N = 1	—	—	N = 5
	45–54 years	N = 7	N = 1	—	N = 1	—	N = 9
	55–64 years	N = 2	N = 1	N = 1	N = 1	N = 1	N = 6
Profession	Nurse	N = 12	N = 1	N = 1	N = 2	N = 1	N = 17
	Physician	N = 1	N = 1	N = 1	—	—	N = 3
	Other	N = 2	N = 3	N = 1	—	—	N = 6
Length of time working in profession	Less than 1 year	N = 1	—	—	—	—	N = 1
	1–5 years	—	N = 2	—	—	—	N = 2
	6–10 years	—	—	N = 2	—	—	N = 2
	11–15 years	N = 1	—	—	—	—	N = 1
	16–20 years	—	—	—	—	—	—
	21–25 years	N = 4	N = 1	—	N = 1	—	N = 6
	26–30 years	N = 7	N = 2	—	—	—	N = 9
	31–35 years	N = 1	—	—	N = 1	N = 1	N = 3
	36–40 years	N = 1	—	N = 1	—	—	N = 2

Note. PHSI = Partnership for Health System Improvement.

Table 5. Participant Demographics Postimplementation PHSI Focus Group.

Participant Demographic Variables (Postimplementation)		Case A	Case B	Case C	Case D	Case E	Total Sample
Number of Participants		N = 12	N = 2	N = 3	N = 4	N = 5	N = 26
Gender	Female	N = 11	N = 2	N = 2	N = 4	N = 4	N = 23
	Male	N = 1	—	N = 1	—	N = 1	N = 3
Age	18–24 years	—	—	N = 1	N = 2	—	N = 3
	25–34 years	—	N = 1	N = 1	—	N = 1	N = 3
	35–44 years	N = 5	—	—	—	N = 2	N = 7
	45–54 years	N = 3	N = 1	N = 1	N = 1	N = 1	N = 7
	55–64 years	N = 4	—	—	N = 1	N = 1	N = 6
Profession	Nurse	N = 8	N = 2	N = 2	N = 4	N = 3	N = 19
	Physician	N = 2	—	N = 1	—	N = 1	N = 4
	Other	N = 2	—	—	—	N = 1	N = 3
Length of time working in profession	Less than 1 year	—	—	—	—	—	—
	1–5 years	—	N = 1	N = 1	N = 3	—	N = 5
	6–10 years	N = 1	—	N = 1	—	N = 2	N = 4
	11–15 years	N = 1	—	N = 1	—	—	N = 2
	16–20 years	N = 1	—	—	—	—	N = 1
	21–25 years	N = 3	—	—	—	N = 1	N = 1
	26–30 years	N = 2	—	—	—	—	N = 2
	31–35 years	N = 1	N = 1	—	—	N = 1	N = 3
36–40 years	N = 2	—	—	N = 1	N = 1	N = 4	

Note. PHSI = Partnership for Health System Improvement.

when engaging busy health-care professionals (Hysong et al., 2013). There is a need for qualitative researchers to maximize existing resources, “think outside of the box” to recruit participants, and collect data. Flexibility, communication, and good working relationships are paramount to research recruitment (Newington & Metcalfe, 2014). Participant recruitment is a primary concern for researchers because low participation rates

can have negative consequences on the research itself (Erwing et al., 2004). Our proposed approaches demonstrate two different ways to recruit health professionals to participate in, often time-consuming, qualitative research.

For the TREKK project, engaging with sites early and regularly to establish trust and rapport prior to focus group data collection resulted in excellent focus group participation,

Table 6. Comparison of Data Richness for PHSI Project.

Data Richness Criteria	Face-to-Face Focus Group (Preintervention)	Videoconference Focus Group (Postintervention)
Total number of participants	26	26
Total number of focus groups	4	5
Average timing of focus group	45 min	35 min
Average word count of transcript	7,053 words	5,611 words
Average word length of participant's longest response	181 words	226 words

Note. PHSI = Partnership for Health System Improvement.

despite the short time frame for qualitative data collection in each site. Participant recruitment was efficient and effective because preliminary contact and relationship building served to identify key contacts to help with room booking, advertising times and locations for focus groups, and reminding ED staff about the project and the focus groups as data collection dates approached. This resulted in high participation ($N = 57$) in the TREKK focus groups, leading to excellent representation across demographic variables, demonstrated in Table 1.

From our PHSI research experience, videoconferencing accommodated the needs of the participants by increasing scheduling flexibility. There is increasing interest in the use of videoconferencing technology in health-care practice, education, and research due to its economic feasibility (M. Smith & Leigh, 1997; Zerr & Pulcher, 2008). It is an expanding technology that provides an alternative to FTF focus groups in research contexts where participants are widely geographically dispersed and eliminate barriers to access (Sedgwick & Spiers, 2009). Online focus groups such as chat rooms and videoconferencing have the potential to reach a more diverse range of participants across geographically dispersed areas than FTF focus groups (Rupert, Poehman, Hayes, Ray, & Moultrie, 2017). Technical problems are recognized as a disadvantage to online audiovisual and online text-only focus groups (Abrams et al., 2015). Yet, in our experience, the videoconferencing platform that we used (Telehealth) provided a good quality service that was efficient and reliable with no sound or technical problems. It provided a secure environment that did not affect the confidentiality of participants.

Challenge 3: Conducting Focus Groups with Health-Care Professionals Across Geographically Dispersed Areas

Important factors that affect the conduct of research across geographically dispersed areas include time, distance, building relationships, gaining administrative approval to conduct the study, advertising the study for participant recruitment, access to available participants, and budgetary requirements for travel.

This foundational work may be done over e-mail or the telephone; however, in busy clinical environments, like EDs, it may be best done in-person.

In the context of the TREKK project, this foundational work occurred gradually through with local contacts prior focus group data collection, which enabled long-distance travel for data collection. It also created the opportunity to conduct focus groups in rural and remote sites that are often left out of research due to the added complexities of accessing these sites and ensuring sufficient participation to justify the expense of reaching these locations.

In the PHSI project, videoconferencing technology provided an active response to overcome the challenges of recruitment, distance, and cost when conducting focus groups in busy rural clinical environments. It also enabled greater flexibility for date/time of data collection. This confirms the previous findings of Reid and Reid (2005) who found that the factors of cost, time, and location savings were the most obvious advantage of online focus groups and Abrams et al., (2015) who stated that greater active participation of diverse people is an advantage of audiovisual and online text-only focus groups.

Challenge 4: Data Richness Across Focus Group Data Collection Methods

In the TREKK project, focus groups were conducted using the traditional FTF approach that has been deemed the most optimal for data richness (Abrams et al., 2015). Over the course of 13 focus groups with 57 participants, we were able to collect rich descriptive data that answered our research question. These data complemented the quantitative survey data obtained from health professionals ($N = 1,471$) and health consumers ($N = 897$) and provided clarity and explanation of some of the unexpected and/or interesting results.

In the PHSI research study, data richness was compared between the preimplementation FTF focus groups and postimplementation audiovisual (videoconferencing) focus groups using qualitative and quantitative approaches.

Previous studies have reported varied results on whether online audiovisual focus groups (i.e., videoconferencing, Skype; Abrams et al., 2015; Kite & Phongsavan, 2017; Sullivan, 2012) versus online text-only focus groups (i.e., Twitter, chat room) can achieve the same degree of data richness compared to FTF focus groups (Bruggen & Willems, 2009; Moore, McKee, & Mc Loughlin, 2015; Schneider, Kerwin, Frechtling, & Vivari, 2002; Underhill & Olmsted, 2003). Videoconferencing as a research tool has great potential, reaching geographically dispersed populations, increasing sampling, and achieving interaction that is similar to FTF focus groups (Kite & Phongsavan, 2017; Sullivan, 2012). Online audiovisual and online text-only focus groups have the advantage of saving money and time and attracting diverse participation in comparison to FTF focus groups (Abrams et al., 2015). Schneider, Kerwin, Frechtling, and Vivari (2002) found that FTF focus group participants are more likely to discuss their opinions and insights in detail than those participating in online text-only

focus groups, and Moore, McKee, and Mc Loughlin (2015) found that lack of human interaction was the main limitation to online text-only focus groups. In contrast, Underhill and Olmsted (2003) found that participants in an online text-only focus group produced a similar amount of topic-related comments and ideas as participants in an FTF focus group.

Complementary to the findings of Abrams et al., (2015), we found that the videoconferencing offered similar data richness to FTF focus groups. Abrams et al. (2015) was the first study to compare data richness between FTF, online text-only, and online audiovisual focus group mediums using an adapted version of Ogden and Cornwell's (2010) five dimensions data richness criteria: length of response, emotional/descriptive expression, "the use of personal pronouns," descriptions of action, and "expressions of insight and causation" (p. 1064). These dimensions offer a means to systematically assess data richness between focus group modalities, which is increasingly important in this era of online communication and technology advancement.

Videoconferencing provided rich qualitative data that also saved time and cost. Real-time videoconferencing enables verbal and nonverbal cues of expression to be collected, contributing to a greater in-depth analysis of the data (Glassmeyer & Dibbs, 2012). However, technical problems (i.e., not seeing video at both locations, poor audio quality, etc.) are a potential drawback for online audiovisual focus groups (Sullivan, 2012). We had information technology employees available at the researcher's and participating sites to ensure that the technology worked and to resolve any potential issues. As recommended by T. M. Smith (2014), we carried out a trial run of the videoconferencing technology prior to each focus group and built in extra time to scheduling in case any technological issues arose. As demonstrated in Tables 4 and 5, the use of videoconferencing did not affect participant representation and data quality. We used real-time transcription for data collection. Real-time transcription by court reporters increases accuracy, provides a faster turnaround time of transcripts, decreases distraction for focus group facilitators, and is more convenient (S. Scott et al., 2009). In comparison to Kite and Phongsavan (2017), we did not have issues with sound quality, and the use of real-time transcription mitigated this potential challenge.

All participants were familiar with using this virtual mode of communication. As recognized by Abrams et al. (2015), participants' familiarity and self-efficacy with the audiovisual communication can impact data quality. Our choice to use Telehealth videoconferencing allowed participants to communicate FTF in real time in a familiar setting at the participating sites. This created a comfortable environment and enabled interaction among participants adding to data richness.

Future Research

There were many benefits to investing time and energy in relationship building prior to data collection in the TREKK project including maximizing resources, enhancing participation, and conducting research in diverse regions. Future

research is needed to examine the costs of relationship building to guide research planning and budgeting. Comparing research outcomes to data collection investments (e.g., financial, resource) would also help to guide qualitative health research protocols.

Recruitment of health professionals for health research is a well-documented challenge (Johnston et al., 2010; Sahin, Yaffe, Sussman, & McCusker, 2014). However, the evidence base to identify the most effective recruitment strategies is weak. As Bower and colleagues (2009) highlight, "recruiting for science is not underpinned by a science of recruitment" (p. 393). Future effectiveness research is needed to identify effective recruitment strategies for qualitative health research.

Despite the benefits of using videoconference technology to conduct focus groups, it is important to consider the following issues: the research context, the preference of the participants, the researcher-participant relationship, technical issues, the confidentiality and consent of the participants, recording and transcribing, and the availability and accessibility of the videoconferencing service. From our research experience, videoconferencing provides a viable solution for conducting focus groups in certain research contexts. Examining the influence of participants being able to see themselves on screen in the online audiovisual focus group would be useful, and the impact that familiarity with the technology has on participation and data quality are all important areas for future research.

An in-depth comparison of data richness between the FTF and audiovisual focus groups was beyond the purpose of this article. Future research could examine participant thoughts and preferences of these modalities. Future research could also apply Abrams et al., (2015) systematic criteria to measure data quality: (a) amount of topic-related data, (b) amount of unrelated data (no theme, socializing, medium related), (c) researcher ratings of data richness, and (d) word count and linguistic characteristics of data to focus groups conducted using multiple modalities within the same research project.

Conclusion

These proposed approaches to focus group data collection yielded strong participation rates, rich qualitative data, and cost savings. The two approaches to focus group data collection have methodological contribution to the current evidence base of focus groups in qualitative health services research. While an extended period of relationship building prior to in-person focus group data collection and videoconferencing are two very different techniques, both approaches are particularly effective and should be considered for research in geographically disperse areas, rural and remote research, and busy clinical environments.

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